CLAIMS

1. A curable resin composition for forming an optical waveguide, the composition comprising a hydrolyzable silyl-containing silane-modified epoxy resin (A) having an average of at least one hydrolyzable silyl group and an average of at least one epoxy group per molecule; and a resin (B) having, per molecule, an average of at least one functional group that is reactive with an epoxy group.

2. The curable resin composition according to claim 1, wherein the hydrolyzable silyl-containing silane-modified epoxy resin (A) is a reaction product of a hydroxy-containing epoxy resin with a hydrolyzable silane compound and/or a condensate thereof.

3. The curable resin composition according to claim 1, wherein the resin (B) is a carboxy-containing resin.

4. A cured resin article for forming an optical waveguide, the article being obtained by applying the curable resin composition according to claim 1 to a substrate, performing a first heating at a temperature at which hydrolyzable silyl groups in the hydrolyzable silyl-containing silane-modified epoxy resin (A) are polymerized through hydrolysis and condensation, and performing a second heating at a temperature at which epoxy groups in the resin (A) react with functional groups in the resin (B).

5. A curable dry film for forming an optical waveguide, the dry film being formed using an optical waveguide-forming curable resin composition comprising a hydrolyzable silyl-containing silane-modified epoxy resin (A) having an average of at least one hydrolyzable silyl group and an average of at least one epoxy group per molecule, and a resin (B) having, per molecule, an average of at least one functional group that is reactive with an epoxy group.

6. The curable dry film according to claim 5 which has a softening temperature within a range of 0°C to 300°C.

7. A cured resin article for forming an optical

waveguide, the article being obtained by bonding the dry film according to claim 5 to a substrate, performing a first heating at a temperature at which hydrolyzable silyl groups in the hydrolyzable silyl group-containing silane-modified epoxy resin (A) are polymerized through hydrolysis and condensation, and performing a second heating at a temperature at which epoxy groups in the resin (A) react with functional groups in the resin (B).

8. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein at least one of (I), (II) and (III) is formed using the curable resin composition according to claim 1.

9. The optical waveguide according to claim 8, wherein the relative refractive index difference between the core (II) and whichever of the lower cladding layer (I) and upper cladding layer (III) that has the higher refractive index, is at least 0.1%.

10. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein at least one of (I), (II) and (III) is formed using the dry film according to claim 5.

11. The optical waveguide according to claim 10, wherein the relative refractive index difference between the core (II) and whichever of the lower cladding layer (I) and upper cladding layer (III) that has the higher refractive index, is at least 0.1%.

12. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein at least one of (I), (II) and (III) is formed using the cured resin article according to claim 4.

13. The optical waveguide according to claim 12, wherein the relative refractive index difference between the core (II) and whichever of the lower cladding layer (I) and upper cladding layer (III) that has the higher refractive index, is at least 0.1%.

14. An optical waveguide comprising a lower cladding layer (I), a core (II) and an upper cladding layer (III), wherein at least one of (I), (II) and (III) is formed using the cured resin article according to claim 7.

15. The optical waveguide according to claim 14, wherein the relative refractive index difference between the core (II) and whichever of the lower cladding layer (I) and upper cladding layer (III) that has the higher refractive index, is at least 0.1%.